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L2: Entry 2 of 2

File: USPT

Dec 11, 2001

US-PAT-NO: 6329156

DOCUMENT-IDENTIFIER: US 6329156 B1

TITLE: Method for screening inhibitors of the toxicity of Bacillus anthracis

DATE-ISSUED: December 11, 2001

## INVENTOR-INFORMATION:

| NAME              | CITY       | STATE | ZIP CODE | COUNTRY |
|-------------------|------------|-------|----------|---------|
| Cirino; Nick M.   | Los Alamos | NM    |          |         |
| Jackson; Paul J.  | Los Alamos | NM    |          |         |
| Lehnert; Bruce E. | Los Alamos | NM    |          |         |

## ASSIGNEE-INFORMATION:

| NAME  | CITY       | STATE | ZIP CODE | COUNTRY | TYPE | CODE |
|---|------------|-------|----------|---------|------|------|
| The Regents of the University of California | Los Alamos | NM    |          |         | 02   |      |

APPL-NO: 09/ 273839 [PALM]

DATE FILED: March 22, 1999

INT-CL: [07] G01 N 33/567, G01 N 33/554, G01 N 33/532, G01 N 33/533

US-CL-ISSUED: 435/7.21; 435/7.32, 435/6, 435/4, 435/7.2, 436/544, 436/546, 436/172

US-CL-CURRENT: 435/7.21; 435/4, 435/6, 435/7.2, 435/7.32, 436/172, 436/544, 436/546

FIELD-OF-SEARCH: 435/7.32, 435/7.21, 435/4, 435/6, 435/7.2, 436/172, 436/164, 436/800, 436/805, 436/546, 436/544, 436/543, 436/63, 436/503, 436/501

## PRIOR-ART-DISCLOSED:

## FOREIGN PATENT DOCUMENTS

| FOREIGN-PAT-NO | PUBN-DATE   | COUNTRY | US-CL |
|----------------|-------------|---------|-------|
| WO 94/18332    | August 1994 | WO      |       |

## OTHER PUBLICATIONS

Klevytska et al. In: Abstracts of the 99th General Meeting of the American Society for Microbiology, Chicago, Illinois, May 30-Jun. 3, abstract 1999.

ART-UNIT: 165

PRIMARY-EXAMINER: Devi; S.

ATTY-AGENT-FIRM: Freund; Samuel M.

## ABSTRACT:

The protective antigen (PA) of Bacillus anthracis is integral to the mechanism of anthrax poisoning. The cloning, expression and purification of a 32 kDa B. anthracis PA fragment (PA32) is described. This fragment has also been expressed as a fusion construct to stabilized green fluorescent protein (EGFP-PA32). Both proteins were capable of binding to specific cell surface receptors as determined by fluorescent microscopy and a flow cytometric assay. To confirm binding specificity in the flow cytometric assay, non-fluorescent PA83 or PA32 was used to competitively inhibit fluorescent EGFP-PA32 binding to cell receptors. This assay can be employed as a rapid screen for compounds which disrupts binding of PA to cells. Additionally, the high intracellular expression levels and ease of purification make this recombinant protein an attractive vaccine candidate or therapeutic treatment for anthrax poisoning.

3 Claims, 4 Drawing figures

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L2: Entry 1 of 2

File: USPT

Mar 2, 2004

US-PAT-NO: 6699679

DOCUMENT-IDENTIFIER: US 6699679 B2

TITLE: Methods for rapid identification of bacillus cereus

DATE-ISSUED: March 2, 2004

## INVENTOR-INFORMATION:

| NAME            | CITY           | STATE | ZIP CODE | COUNTRY |
|-----------------|----------------|-------|----------|---------|
| Chen; Chi Hua   | Hsinchu        |       |          | TW      |
| Chang; Tsung C. | Tao Yuan Hsien |       |          | TW      |
| Ding; Hwia C.   | Hsinchu        |       |          | TW      |

## ASSIGNEE-INFORMATION:

| NAME   | CITY   | STATE | ZIP CODE | COUNTRY | TYPE | CODE |
|--|--------|-------|----------|---------|------|------|
| Food Industry Research and Development Institute | Taiwan |       |          | CN      | 03   |      |

APPL-NO: 10/ 022591   [\[PALM\]](#)

DATE FILED: December 17, 2001

## FOREIGN-APPL-PRIORITY-DATA:

| COUNTRY | APPL-NO    | APPL-DATE        |
|---------|------------|------------------|
| TW      | 90101886 A | January 31, 2001 |

INT-CL: [07] [G01 N 33/554](#)

US-CL-ISSUED: 435/7.32; 435/7.1, 435/7.2, 435/7.92, 435/34, 435/975

US-CL-CURRENT: [435/7.32](#); [435/34](#), [435/7.1](#), [435/7.2](#), [435/7.92](#), [435/975](#)

FIELD-OF-SEARCH: 435/975, 435/7.1, 435/7.32, 435/7.92, 435/7.2, 435/34, 530/387.1, 530/388.1, 424/130.1, 424/150.1, 424/164.1

PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

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| PAT-NO  | ISSUE-DATE     | PATENTEE-NAME  | US-CL     |
|---|----------------|----------------|-----------|
| <input type="checkbox"/> <a href="#">5763226</a>      | June 1998      | Wong et al.    |           |
| <input type="checkbox"/> <a href="#">6284517</a>      | September 2001 | Restaino       | 435/252.4 |
| <input type="checkbox"/> <a href="#">2002/0082386</a> | June 2002      | Mangold et al. | 530/350   |

## FOREIGN PATENT DOCUMENTS

| FOREIGN-PAT-NO | PUBN-DATE  | COUNTRY | US-CL |
|----------------|------------|---------|-------|
| 8602363        | April 1986 | WO      |       |
| 9936081        | July 1999  | WO      |       |

## OTHER PUBLICATIONS

Koo et al. May 19-23, 1996. ASM Abstracts. New Orleans, USA. 96(0). p. 381.\*  
Nielsen et al. J.Biol. Chem. 1982. 257(8): 4490-4495.\*  
Harmon et al. 1992. Compendium of methods for the Microbiological Examination of foods. 3rd ed. American Public Health Association. Washington DC., pp. 593-604.  
reference not included. Cited on p. 1 of Applicants' specification.

ART-UNIT: 1645

PRIMARY-EXAMINER: Graser; Jennifer E.

ATTY-AGENT-FIRM: Ladas & Parry

## ABSTRACT:

The present invention provides a method for rapid identification of *Bacillus Cereus* comprising utilizing an antibody specific to a certain surface antigen of *B. cereus*, and the kit for performing the method.

14 Claims, 2 Drawing figures

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L2: Entry 1 of 2

File: USPT

Mar 2, 2004

US-PAT-NO: 6699679

DOCUMENT-IDENTIFIER: US 6699679 B2

TITLE: Methods for rapid identification of bacillus cereus

DATE-ISSUED: March 2, 2004

## INVENTOR-INFORMATION:

| NAME            | CITY           | STATE | ZIP CODE | COUNTRY |
|-----------------|----------------|-------|----------|---------|
| Chen; Chi Hua   | Hsinchu        |       |          | TW      |
| Chang; Tsung C. | Tao Yuan Hsien |       |          | TW      |
| Ding; Hwia C.   | Hsinchu        |       |          | TW      |

US-CL-CURRENT: 435/7.32; 435/34, 435/7.1, 435/7.2, 435/7.92, 435/975

## CLAIMS:

What is claimed is:

1. A kit for rapid identification for B. cereus comprising isolated antibodies against at least one cell surface antigen of B. cereus, and reagents and apparatus for detection of antibody-antigen binding reaction in a test sample; wherein the at least one antigen is selected from the group consisting of: surface antigens of B. cereus with molecular masses of 28.5, 26.5 and 20 Kda and a mixture thereof.
2. The kit according to claim 1, wherein the at least one antigen has a molecular mass of 28.5 kDa or 20 kDa.
3. The kit according to claim 2, wherein the at least one antigen has a molecular mass of 28.5 kDa.
4. The kit according to claim 1, wherein the reagents are combinable with MYP selective agar for rapid identification of B. cereus.
5. The kit according to claim 1, wherein the reagents and apparatus are adapted for use with an enzyme-linked immunosorbent assay (ELISA).
6. The kit according to claim 1 wherein the reagents and apparatus comprise means for carrying out colony blot immunassay.
7. The kit according to claim 1, wherein the isolated antibodies do not cross react with B. licheniformis strains having CCRC numbers 11556, 12826 and 11702.
8. A method for rapid identification of Bacillus cereus in a sample comprising: (a) providing the kit of claim 7 and mixing the isolated antibodies with the sample, and (b) detecting whether there is an antibody-antigen binding reaction in the sample so as to ascertain the presence of B. cereus if

the antibody-antigen binding reaction is positive.

9. The method according to claim 8, wherein the at least one antigen has a molecular mass of 28.5 kDa or 20 kDa.

10. The method according to claim 8, wherein the at least one antigen has a molecular mass of 28.5 kDa.

11. The method according to claim 8 wherein the reagents are combined with MYP selective agar for rapid identification of *B. cereus*.

12. The method according to claim 8, wherein the binding reaction is determined by enzyme-linked immunosorbent assay (ELISA).

13. The method according to claim 8, wherein the binding reaction is determined by colony blot immunoassay.

14. The method according to claim 8, wherein the isolated antibodies do not cross react with *B. licheniformis* strains having CCRC numbers 11556, 12826 and 11702.